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VA2339 45 NEW COMPTON STREET, LONDON

Condition 15 - Lift Noise

Planning approval has been granted for a refurbishment and extension of the building at 45 New Compton Street, WC2H 8DF, including a lift shaft extension to the front elevation.

Condition 15 attached to the permission requires:

> *"Prior to the commencement of development, design details that demonstrate 5 that the lift motor and associated equipment will achieve the following shall be submitted for approval by the Local Planning Authority:*
>
> *a.) LOAEAL (green) noise levels for 'inside a bedroom' for night time as set out in Table B of Appendix 3 of the Camden Local Plan.*
>
> *b.) 'vibration inside dwellings' standard for night time operation as set out in Table A of Appendix 3 of the Camden Local Plan.*
>
> *Reason: To prevent the transmission of noise and vibration throughout the building and / or into any neighbouring premises in accordance with the requirements of policies A1 and A4 of the London Borough of Camden Local Plan 2017."*

Table A and Table B of Appendix 3 of the Camden Local Plan provide the following criteria:

Vibration description and location of measurement	Period	Time	Vibration Levels (Vibration Dose Values)
Vibration inside dwellings	Day and evening	07:00-23:00	0.2 to 0.4 VDV $ms^{-1.75}$
Vibration inside dwellings	Night	23:00-07:00	0.13 VDV $ms^{-1.75}$

Table 1.1 – Excerpt from Table A, Appendix 3 of the Camden Local Plan

These values are based on the "low probability of adverse comment" limits in BS6472-1:2008 *Guide to evaluation of human exposure to vibration in buildings.*

Assessment Location	Design Period	LOAEL (Green)
Inside a Bedroom	Day	<35dB $L_{Aeq,16hr}$
	Night	<30dB $L_{Aeq,8hr}$ 42dB $L_{Amax,fast}$

Table 1.2 - Excerpt from Table B, Appendix 3 of the Camden Local Plan

These values are based on the recommendations in BS8233: 2014 *Guidance on sound Insulation and noise reduction for buildings* and WHO.

For lift noise, the <42dB $L_{Amax, fast}$ criterion would be the most relevant.

The lift shaft is to be located towards the southeast corner of the building, protruding out the front of the building. The shaft is not adjacent to any noise sensitive space, being separated from all dwellings by the lobbies at each floor.

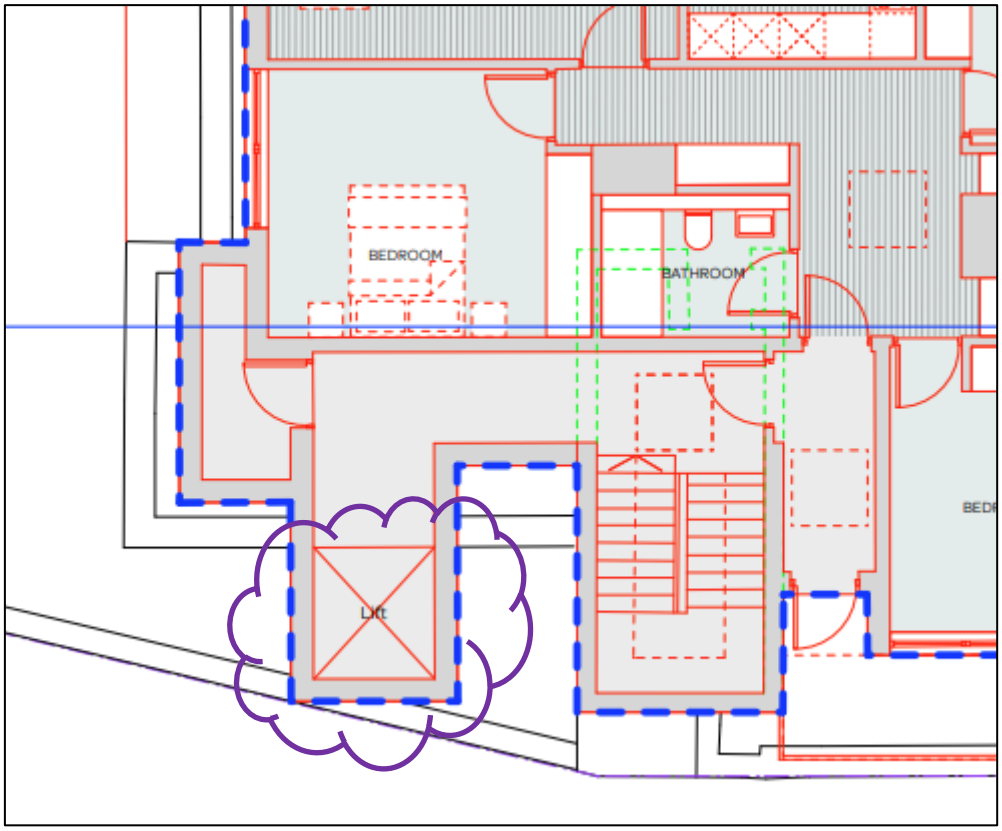

Figure 1.2 – Illustration of lift shafts position relative to nearest bedroom

The type of lift to be installed has not been selected as yet. However, typical upper noise levels are considered to demonstrate that within the building layout the lift system is expected to achieve the stipulated limits.

VDI 2566-2:2004 specifies a maximum sound pressure level in the lift shaft of 75 dB(A) although levels are generally significantly lower than this for the comfort of passengers in the lift car.

Allowing for a 10dB reduction through the lift door, no reduction in the lobby, 6dB reduction from the lobby into the communal corridor (if the interleading door is open) and another 20dB reduction from the lobby into the entrance hall of the nearest dwelling, a maximum sound level of less than

40dB would be expected in the hall. This is considered a very robust estimate. The noise levels would be lower still in the bedrooms off the entrance hall.

Therefore, airborne sound transfer is not considered to be significant.

Structural noise is usually of concern where a lift shares a party wall with a bedroom. In the current layout, the lift is well separated from the bedrooms. The lift drive mechanism and guide rails should be mounted to the lift shaft via anti-vibration mounts appropriate to the type of lift drive and system.

Given the spatial separation of the lift from all bedrooms, it is not expected that a lift mounted via suitable anti-vibration mounts would generate perceptible levels of vibration or regenerated noise.

The requirements of Condition 15 are therefore expected to be achieved.

Yours sincerely
on behalf of Venta Acoustics

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